

POSITIVE SCIENCES AT THE
INTERNATIONAL CONGRESS OF HISTORY.

THE name of Rome and the favourable season gave to the congress recently held in the Italian capital an international character, evident, not so much in the numerous concourse of visitors from all parts, as in the nature of the subjects treated. The congress was interesting, not only with regard to the original communications on historical subjects, but still more so respecting the series of discussions on the necessity of collecting and putting in order the material for study so as to render it easily accessible. Bibliographical questions are of greater importance to the historian than to the man of science. The latter, who has at his disposal material in a great measure of recent date and easily accessible, has been able, with greater facility than the historian, to get up good indexes and catalogues; but the difficulties which stand in the way of those desirous of collecting historical data, and of those who have to put them in order, varying, uncertain, obscure as such data are, scattered here and there in innumerable archives and libraries, are very great indeed.

All, or nearly all, the resolutions voted by the congress refer persistently to the necessity of the publication of catalogues, bibliographies, of entire bodies of documents of a given kind, of atlases, reproductions, &c., and, contrary to what is customary amongst Anglo-Saxon peoples who rely more on personal initiative, an appeal is, of course, made to Governments and academical bodies.

The importance assumed by the eighth section—"History of the Sciences"—is a gratifying fact to the cultivators of positive sciences. At the historical congress of Paris in 1900 this section was less attended; in Rome, on the contrary, the students of the history of the principal sciences were represented, assembled in friendly unanimity for a common object.

Amongst the mathematicians I may mention Tannery, who traced the origin of the terms "analysis" and "synthesis" in mathematics; Loria, who, besides other communications, spoke in favour of the publication of the works of Torricelli; Vailati, who spoke on the theory of the lever according to Archimedes; Torni-Bazza, who treated of Niccolò Tartaglia and of an inedited manuscript of Oxford, and others.

Pirotta gave an account of the science of botany and its bibliography in Rome, Mattiolo spoke on Aldrovandi, Celani and Baldacci presented antique herbaria.

Camerano narrated the history of the doctrines of Lamarck in Italy at the beginning of the nineteenth century.

Guareschi, with the aid of documents, showed the accusations of plagiarism against Lavoisier, formulated originally in England, to be unfounded.

Sudhoff treated of Paracelsus and his writings; Blanchard, of the *jetons* of the members of the medical faculty of Paris; Barduzzi, of the University of Siena and of Andrea Mattioli; Pensuti, of the hospitals of antiquity.

Günther discussed the *Jacobsstab* (Jacobs's-staff or cross-staff), an ancient astronomico-geodetic instrument erroneously attributed to Regiomontanus; Millosevitch showed the necessity of promoting the knowledge of Ginzel's canon of eclipses as a means of ascertaining the dates of the period of classical antiquity. There were communications on the history of the tides (Almazia), on the mariner's compass (Moretti), and on seismology (Baratto).

On a motion of Giacosa, a catalogue of the writings on scientific subjects extant in the archives and libraries

of the kingdom was voted; the necessity of courses of lectures on the history of the sciences in the universities was discussed, the limits of these courses being then determined, and finally, a permanent international committee was appointed, to which was entrusted the care of the section of the history of the sciences at the future congress of Berlin.

Positive sciences were likewise dealt with in some other sections. Montelius demonstrated the extension of relations between Italy and Scandinavia, proved by the amber trade up to the Bronze age. The woollen industry, introduced principally from England, and its economic results were discussed (Schulte). An interesting communication by Bargagli-Petrucchi related the measures taken in Siena in the thirteenth and fourteenth centuries to provide the town with drinking-water, and the deliberations on the subject.

Modern science with its positivistic ideas has likewise not been without influence on the history of methodics. Thus, Vailati treated of the applicability of the notions of cause and effect in the domain of historical sciences, whereas Hartmann argued that history must follow evolutionist methods, excluding consciousness as a causal factor. PIERO GIACOSA.

JULIUS VICTOR CARUS (1823-1903).

TWO generations of zoologists have been familiar with the name of J. V. Carus, who died in Leipzig on March 10 at the age of fourscore years. His name has come to be associated with zoological scholarship, with bibliographical and historical work, with the promulgation of Darwinism, and with the *Zoologischer Anzeiger*, which he edited for the last quarter of a century.

Julius Victor Carus was born at Leipzig on August 25, 1823; he came of a scientific family, represented by several famous names in the history of science. His father was an illustrious surgeon—for a time professor at Dorpat; his mother was the daughter of a renowned gynaecologist. From 1841 onwards, Carus studied medicine and natural science at the famous university of his birthplace, and in 1846 he became assistant physician at the Georgen-Hospital there.

But zoology had a stronger hold on him than medicine, and thus we find him pursuing comparative anatomy at Würzburg, at Freiburg i. Br., and at Oxford (autumn of 1849). At Oxford he acted as conservator of the Museum of Comparative Anatomy, and it was there that he perfected his wonderful command of the English language. In 1851 he returned to Leipzig as a docent, and there he remained, as professor extraordinarius of comparative anatomy, and as director of the zootomical collections, for more than half a century. There was, indeed, a notable break in 1873 and 1874, when he acted as *locum tenens* in the chair of zoology in Edinburgh for Prof. Wyville Thomson, then absent on the *Challenger* expedition. In Edinburgh memories still linger of his excellent lectures on comparative anatomy, which seem to have been somewhat in advance of the requirements and desires of the majority of his large constituency of medical students.

Carus was a man of extraordinary industry, with a high ideal of careful and scholarly workmanship, and instinctively interested in the history of his science. Thus he did more in the way of translation and bibliography, exposition and history than in the way of original research. It will be an evil day for natural science when this type of worker fails to be appreciated.

Among the works of Prof. J. Victor Carus we may note an early paper on alternation of generations

("Zur näheren Kenntniss des Generationswechsels"), Leipzig, 1849; his "System der tierischen Morphologie" (1853); his beautiful atlas, "Icones Zootomicae" (1857); his text-book, "Handbuch der Zoologie," in collaboration with Gerstaecker (1863-1875); his essay "Ueber die Wertbestimmung der zoologischen Merkmale" (1854); his investigation on Leptocephalids (1861); his useful "Prädromus Fauna Mediterraneanæ" (2 vols., 1884-1893); his "Bibliotheca Zoologica," in collaboration with Engelmann (2 vols., Leipzig, 1862); his edition of the *Zoologischer Anzeiger*, since its beginning in 1878; his excellent translations of the more important of Darwin's works, of Lewes's "Physiology of Daily Life," &c.; but above all his erudite and invaluable history of zoology ("Geschichte der Zoologie"), 1872. Although this well-known history is not marked by the genius which illuminates Sachs's "History of Botany," it is a great work, quite enough in itself to make the name of Carus famous.

In reference to Carus's translation of Darwin's works, it is interesting to recall what Mr. Francis Darwin says in the "Life and Letters," vol. iii. p. 48. "From this time (1866) forward Prof. Carus continued to translate my father's books into German. The conscientious care with which this work was done was of material service, and I well remember the admiration (mingled with a tinge of vexation at his own shortcomings) with which my father used to receive lists of oversights, &c., which Prof. Carus discovered in the course of translation. The connection was not a mere business one, but was cemented by warm feelings of regard on both sides." In 1866 we find Darwin writing to Carus:—"I wish I had known when writing my historical sketch that you had, in 1853, published your views on the genealogical connection of past and present forms."

While Carus did not himself make many contributions to the research-literature of zoology, he was certainly one of those who facilitated the progress of the science. It is hard to say how much we owe to the persistent patience implied in the onerous labour of editing the *Zoologischer Anzeiger*, which has helped to keep us up to date for so many years, and has prompted other *Berichte* on similar or different lines. There can be no doubt that Carus gave his mature strength to making this journal a success—an indispensable item in every zoological laboratory, and an organon of progress. We are glad to see that the editorship, which he so ably discharged, has passed into the expert hands of Prof. E. Korschelt.

Although he lived a very quiet and unobtrusive life—*arbeitsreich*, as his fellow-countrymen say—he had his share of honours. He was an honorary doctor of philosophy of the University of Jena, and an LL.D. of both Oxford and Edinburgh, and he received decorations from Prussia, Saxony, and Russia. Herr Professor, Dr. med., phil. et jur. Julius Victor Carus, Ritter pp., was the doyen of the medical faculty of the University of Leipzig, and his obsequies were duly honoured both by the University and by the city on March 13. In the venerable Paulinerkirche the University preacher, Prof. D. Rietschel, spoke of Carus's devotion to science, literally maintained "till the pen dropped from the wearied fingers," of his keen artistic interests, of the nobility of his character, and of the strength of his family affections. He leaves a widow, three daughters (one married to Dr. J. Lehmann), and a son, Victor, to lament his loss. The Dean of the Medical Faculty, Prof. Hoffmann, spoke of his scientific patience and of the loyalty of his services along lines which frequently weakened health and other personal inhibitions left open to him. The fact seems to be that Carus might have been *professor ordinarius*

at Leipzig if he had not gracefully and magnanimously bowed to the strong claims of Rudolf Leuckart; "er war kein Streber und verstand es nicht seine Forschungen schnell genug zur Discussion zu stellen, sondern er legte sie in grossen Arbeiten langsam nieder." Thus it is readily intelligible why he devoted himself to a line of work which was not only organically congenial, but brought him some security of income.

It is, therefore, all the more desirable that we should record, as it were from a distance, how much we honour the name of Carus—as a bibliographer, as a historian of the science of zoology, and as one who, by persistent patience of recording, has made the steps of progress easier to thousands.

J. A. T.

NOTES.

A ROYAL COMMISSION has been appointed to obtain and distribute full information as to the best mode by which the United Kingdom and British dominions may be represented at the St. Louis International Exhibition to be opened next year, to assist with advice and cooperation, and generally to promote the success of the exhibition. The commissioners are:—His Royal Highness the Prince of Wales, president; Viscount Peel, chairman; the Earl of Jersey, Earl Howe, Lord Castletown, Lord Inverclyde, Lord Alverstone, Lord Avebury, Mr. Horace Plunkett, the Hon. Charles Napier Lawrence, the Hon. Sir Charles W. Fremantle, Sir G. Hayter Chubb, Sir Edward J. Poynter, Sir C. Rivers Wilson, Sir E. Maunde Thompson, Sir William H. Preece, Sir W. T. Thiselton-Dyer, Sir Herbert Jekyll, Sir Lawrence Alma-Tadema, R.A., Sir C. Purdon Clarke, Sir George T. Livesey, Mr. Henry H. S. Cunynghame, Mr. Edwin A. Abbey, R.A., Mr. Charles Vernon Boys, F.R.S., Mr. Thomas Brock, R.A., Mr. George Donaldson, Prof. C. Le Neve Foster, F.R.S., Mr. John C. Hawkshaw, Mr. Thomas G. Jackson, R.A., Mr. W. Henry Maw, Mr. F. G. Ogilvie, Mr. William Q. Orchardson, R.A., Mr. Boerton Redwood, F.R.S., Mr. Alfred G. Salomon, Mr. Joseph W. Swan, F.R.S., Mr. J. J. Harris Teall, F.R.S., and Mr. F. W. Webb. Colonel C. M. Watson, C.B., is appointed secretary of the Commission.

At a meeting of the above commissioners on Tuesday, the Prince of Wales gave a short practical address, in the course of which he remarked: "Both France and Germany appear fully to realise the advantages to be gained by making a good display of their productions, and in these countries large sums have been provided by their respective Governments to assist in meeting the expense of the exhibits. There is one point to which it would seem desirable to direct attention. In previous international exhibitions, while other countries have arranged to have combined national displays in certain groups, it has been the habit for British manufacturers to show individual exhibits, rather than to combine together so as to produce the best possible effect. It is hoped that in the case of the St. Louis Exhibition it may be possible to arrange so that exhibitors will combine in order to display British products to the best advantage. It should be remembered that the competition will not be between individual British manufacturers, but between them as a whole and their foreign rivals. As regards the amount which will be available to carry out the work of the Royal Commission, I understand that His Majesty's Government has included a sum of 30,000*l.* in the Estimates for 1903-04 as a commencement, and that a decision will not be arrived at as to the total amount to be granted until it has been ascertained to what extent British manufacturers show a willingness to take part in the exhibition."